

IN THE CLAIMS

1. (currently amended) A vacuum pumping arrangement comprising a drive shaft, a motor for driving saidthe drive shaft, a molecular pumping mechanism and a regenerative pumping mechanism, wherein saidthe drive shaft is arranged for simultaneously driving saidthe molecular pumping mechanism and saidthe regenerative pumping mechanism and saidthe drive shaft is supported by a lubricant free bearing associated with saidthe molecular pumping mechanism.
2. (currently amended) AnThe arrangement as claimed in claim 1, wherein saidthe lubricant free bearing is a magnetic bearing.
3. (currently amended) AnThe arrangement as claimed in claim 1or2, wherein saidthe lubricant free bearing and the molecular pumping mechanism are substantially axially aligned.
4. (currently amended) AnThe arrangement as claimed in any preceding claim 1, wherein saidthe drive shaft is additionally supported by a lubricated bearing associated with saidthe regenerative pumping mechanism.
5. (currently amended) The An-arrangement as claimed in claim 4, wherein saidthe lubricated bearing is a rolling bearing.
6. (currently amended) The An-arrangement as claimed in claim 4orclaim 5, wherein saidthe lubricated bearing and the regenerative pumping mechanism are substantially axially aligned.
7. (currently amended) The An-arrangement as claimed in any of claims 4 to 6, wherein saidthe regenerative pumping mechanism comprises a stator comprising a plurality of circumferential pumping channels disposed about a longitudinal axis of the drive shaft and a rotor comprising a plurality of arrays of rotor blades extending axially into the respective said circumferential pumping channels.

8. (currently amended) The An-arrangement as claimed in claim 7, wherein saidthe rotor of saidthe regenerative pumping mechanism is connected to saidthe drive shaft so as to be sufficiently close to saidthe lubricated bearing so that radial movement of saidthe drive shaft at saidthe lubricant free bearing translates substantially to axial movement of saidthe rotor blades relative to the respective said circumferential pumping channels.

9. (currently amended) The An-arrangement as claimed in claim 7-~~or 8~~, wherein saidthe lubricated bearing and saidthe circumferential pumping channels are substantially axially aligned.

10. (currently amended) The An-arrangement as claimed in ~~any one of claims 7 to 9~~, wherein saidthe lubricated bearing is housed in the stator of the regenerative pumping mechanism.

11. (currently amended) The An-arrangement as claimed in ~~any one of the preceding claims 1~~, wherein saidthe molecular pumping mechanism comprises a molecular drag pumping ~~means~~mechanism.

12. (currently amended) The An-arrangement as claimed in ~~any one of the preceding claims 1~~, wherein saidthe molecular pumping mechanism comprises turbomolecular pumping means.

13. (currently amended) The An-arrangement as claimed in ~~any one of the preceding claims 1~~, comprising a housing which houses the molecular pumping mechanism, the regenerative pumping mechanism, the drive shaft and the motor.

14. (currently amended) A vacuum pumping arrangement comprising a drive shaft, a motor for driving saidthe drive shaft, and a regenerative pumping mechanism, saidthe drive shaft being supported towards one end thereof by a lubricant free bearing and towards the other end thereof by a lubricated bearing, saidthe regenerative pumping mechanism comprising a stator comprising a plurality of circumferential pumping channels disposed about a longitudinal axis of the drive shaft and a rotor comprising a plurality of arrays of rotor blades extending axially into the respective said circumferential pumping channels,

saidthe rotor being connected to saidthe drive shaft so as to be sufficiently close to saidthe lubricated bearing so that radial movement of saidthe drive shaft at saidthe lubricant free bearing translates substantially to axial movement of saidthe rotor blades relative to the respective said circumferential pumping channels.

15. (new) The arrangement as claimed in claim 2, wherein the molecular pumping mechanism comprises a molecular drag pumping mechanism.

16. (new) The arrangement as claimed in claim 15, wherein the molecular pumping mechanism comprises turbomolecular pumping means.

17. (new) The arrangement as claimed in claim 16, comprising a housing which houses the molecular pumping mechanism, the regenerative pumping mechanism, the drive shaft and the motor.